ADVANCED AND EVER ADVANCING **MITSUBISHI ELECTRIC**

MITSUBISHI

DISPLAY MONITORS

A Broad Range of Customized Display Monitors
Ein breites Angebot angeglichener Display Monitore
Une large gamme de moniteurs d'affichage personnalisés

Color Display Monitors to Fit Every Application

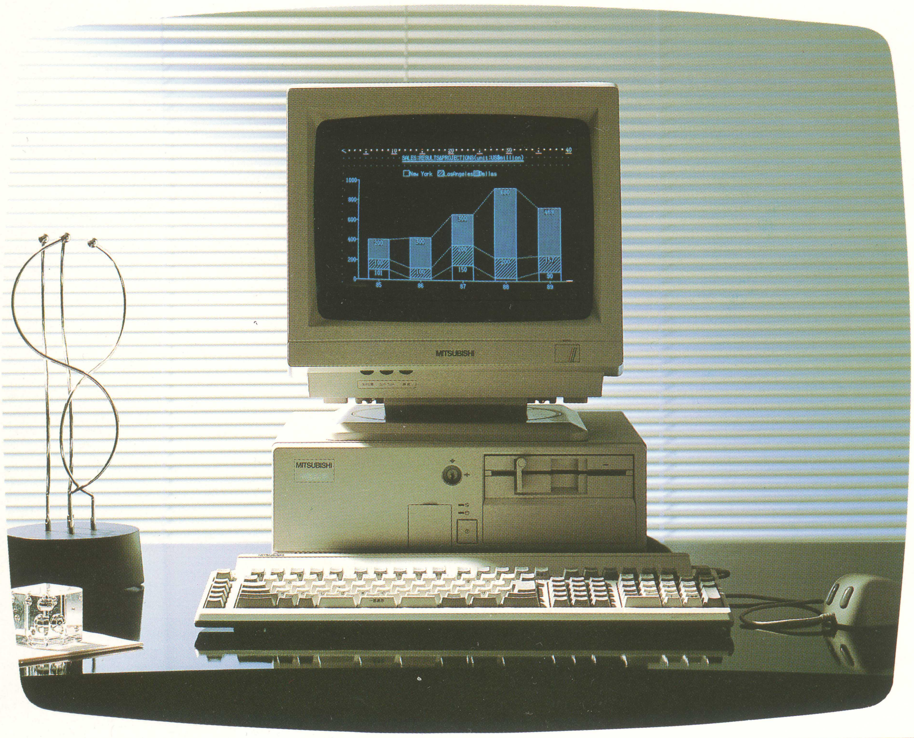
Farb-Display Monitore, die jedem Anspruch gerecht

Des moniteurs d'affichage couleur pouvant satisfaire

Mitsubishi's Display Monitors come in all sizes and types, with many combinations of strengths and functions. Whatever your application requirements, you'll find the perfect, virtually customized display monitors somewhere in these pages.

Mitsubishi's Display Monitore sind in allen Größen und Arten erhältlich, wobei vielfältige Kombinationsmöglichkeiten bezüglich der Stärke und Funktion gegeben sind. Wie auch immer Ihre Ansprüche auf diesem Gebiet aussehen mögen, auf den folgenden Seiten werden Sie ein genau auf Ihren Bedarf zugeschnittenes Display finden.

Les moniteurs d'affichage Mitsubishi existent dans toutes les tailles et tous les types, avec de nombreuses combinaisons de forces et de fonctions. Quel que soit votre besoin en la matière, vous trouverez l'affichage idéal, tout à fait adapté à vos besoins particuliers dans l'une de ces pages de présentation.



Personal Computers

Mitsubishi's Display Monitors are compatible with a wide range of currently available personal computers — and will brighten up any program with graphics in bright, brilliant color.

Personal Computer

Mitsubishi's Display Monitore sind kombinierbar mit einer Vielzahl der gegenwärtig angebotener Personal Computer — und bereichern so jedes Programm mit Grafiken in leuchtenden und lebendigen Farben.

Ordinateurs personnels

Les moniteurs d'affichage de Mitsubishi sont compatibles avec une large gamme d'ordinateurs personnels actuellement dans le commerce — et embelliront n'importe quel programme à l'aide de graphiques de couleur vive et brillante.

CAD/CAM

Mitsubishi's programmed color graphic displays are ideal for CAD/CAM purposes because they present even the most complex information in a clear, easily understood form.

CAD/CAM

Mitsubishi's Display Monitore sind ideal zur Anwendung von CAD/CAM, da mit ihnen auch die schwierigsten Sachverhalte in einer anschaulichen, leicht verständlichen Weise dargestellt werden können.

CAD/CAM

Les affichages à graphique couleur programmé de Mitsubishi sont l'idéal pour des utilisations CAD/CAM puisque qu'ils présentent l'information la plus complexe sous une forme claire et de compréhension aisée.

werden

chaque usage particulier

Work Stations

The wide range of screen sizes, types and functions guarantees that whatever the job, Mitsubishi has the perfect monitor for tables, graphics, text, etc.

Arbeits-Stationen

Die große Auswahl an Bildschirmgrößen, Typen und Funktionen garantiert, daß Mitsubishi für jede Art von Arbeit den passenden Monitor hat, handelt es sich nun um Tabellen, Grafiken, Text oder anderes.

Stations de travail

La large gamme des tailles d'écran, des types et des fonctions garantit que, quel que soit le travail à accomplir, Mitsubishi possède le moniteur idéal pour les tableaux, graphiques, textes, etc.

Televisual Conferencing

Using super large CRTs connected to an intelligent system, televisual conferencing makes the most of video images, graphics and textual information.

Konferenz via Bildschirm

Mit Hilfe von sehr großen CRTs, die an ein Nachrichtensystem angeschlossen werden, können Video-Bilder, Grafiken und Textinformationen für eine Konferenz via Bildschirm benutzt werden.

Conférences télévisuelles

A l'aide de C.R.T. de très grande taille connectés à un système intelligent, l'application à une conférence télévisuelle utilise au mieux les images vidéo, les graphiques et l'information textuelle.

Computer Graphics

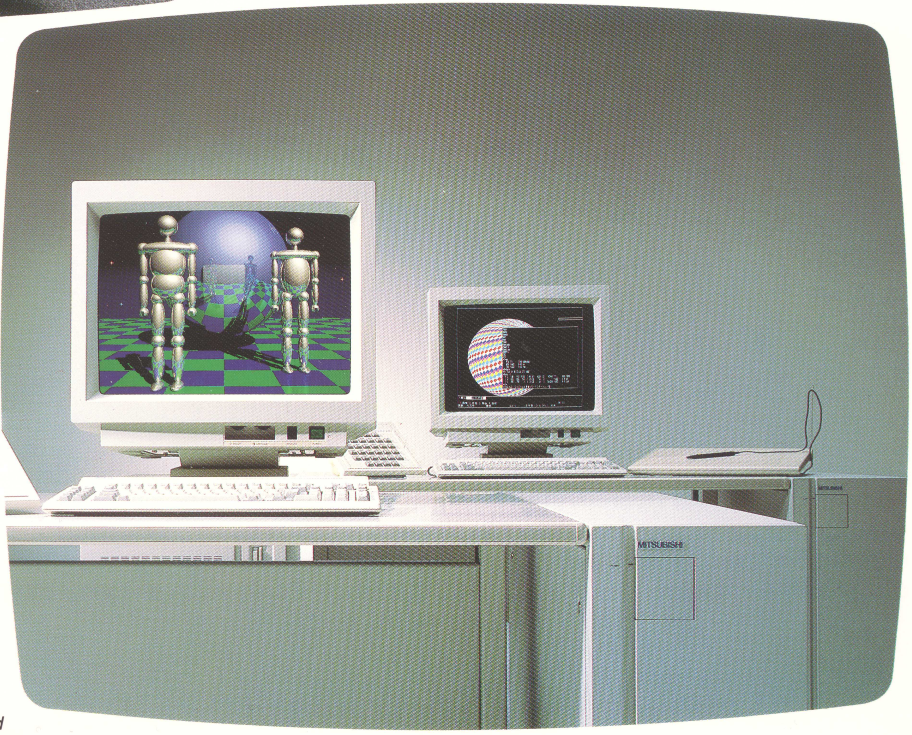
High resolution with (or without) interlace delivers crisp, clear high-density graphics, and the wide bandwidth and high-frequency response are ideal for 3D images.

Computer-Grafiken

Das hohe Auflösungsvermögen, mit (oder ohne) Zeilensprung, liefert scharfe, klare Grafiken mit hoher Dichte und die große Bandweite sowie die Hochfrequenz-Anzeige sind ideal für dreidimensionale Bilder.

Graphiques sur ordinateur

Une résolution élevée avec (ou sans) une netteté de livraison d'entrelacé, des graphiques à haute densité clairs, et la réponse à grande largeur de gamme et haute fréquence, sont l'idéal pour des images 3D.



All pictures simulated

Precise, Halo-Free Dynamic Beam Forming (DBF)

Dynamische Strahlen-Verformung (DBF), präzise und frei von Kranzerscheinungen

Formation de faisceau dynamique (D.B.F.) précise et exempte de halo

Until now, the focus level of Mitsubishi display monitors has been highly reputed because the center image matched that of the edges and corners. Recent user demand for pictures with ever higher resolution (up to 1280 lines × 1024 dots), however, and the need for higher picture quality over the entire screen inspired us to produce a new technology, Dynamic Beam Forming. Dynamic Beam Forming sharpens the focus at the edges and corners to match the center and thus improves resolution over the entire screen by 30%.

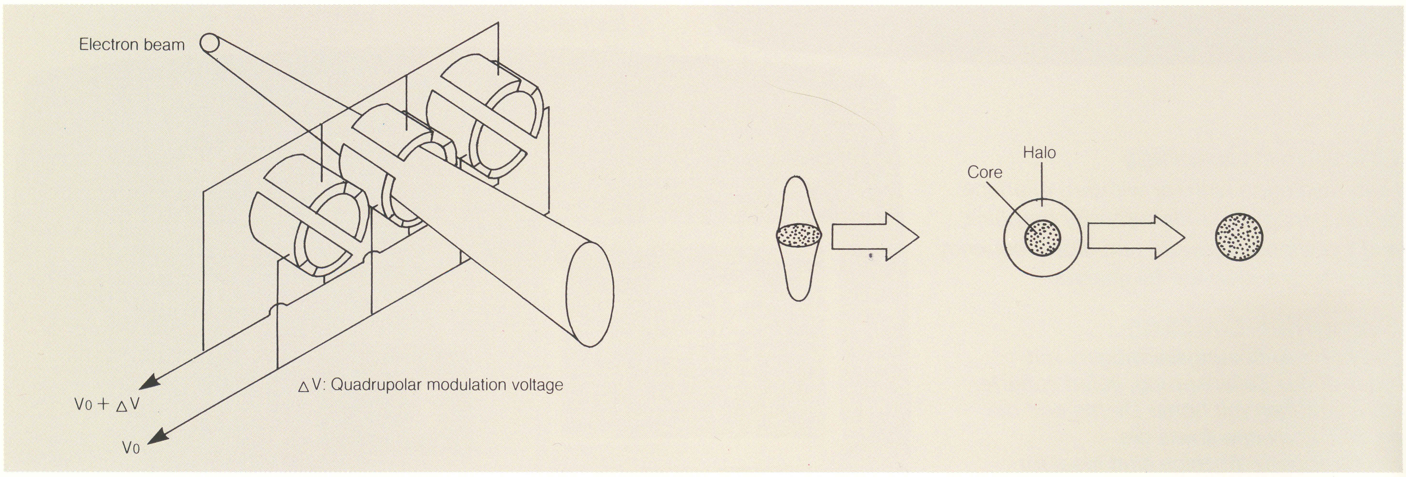
- Marked improvement in edge and corner resolution (30%)
- Sharper image over the entire screen (clear image)
- Sharp image in high beam-current region (clear white characters)
- Uniform lines over entire screen (ideal for CAD/CAM)

Das Niveau der Bildschärfe bei den Mitsubishi Display Monitoren hat bisher einen sehr guten Ruf genossen, da der Mittelteil des Bildes mit den Kanten und Ecken des Bildes übereinstimmt. In letzter Zeit wird von den Benutzern jedoch immer stärker ein höheres Auflösungsvermögen gefordert (bis zu 1280 × 1024 Zeichen). Diese Forderung und der Wunsch nach einer noch besseren Bildqualität veranlaßten uns, eine völlig neue Technologie zu entwickeln-die Dynamische Strahlen-Verformung. Mit diesem Verfahren wurde die Bildschärfe an den Ecken und Kanten noch weiter verbessert und der Mitte angepaßt, dadurch wurde das Auflösungsvermögen für den gesamten Bildschirm um 30 Prozent gesteigert.

- Deutliche Steigerung des Auflösungsvermögens an den Ecken und Kanten.
- Schärferes Bild auf dem gesamten Bildschirm (klares Bild)
- Scharfes Bild in Gebieten mit starker Lichtbündelung (klare weiße Zeichen)
- Gleichförmige Linien über den ganzen Bildschirm (ideal für CAD/CAM)

Jusqu'à présent, le niveau de mise au point des moniteurs d'affichage Mitsubishi jouissait d'une réputation exceptionnelle car l'image centrale correspondait à celle des bords et coins. Néanmoins, les utilisateurs réclamant aujourd'hui des images d'une résolution encore supérieure (jusqu'à 1280 lignes × 1024 points), et le besoin grandissant d'une qualité supérieure d'image sur l'écran entier nous ont poussé à produire une nouvelle technologie, la formation de faisceau dynamique. Cette technologie permet de renforcer la mise au point aux bords et aux coins afin de correspondre au centre et par conséquent améliore la résolution de 30% sur l'écran entier.

- Amélioration marquée de la résolution des bords et des coins (30%)
- Image plus nette sur l'ensemble de l'écran (image claire)
- Image nette dans la zone de courant à faisceau élevé (caractères blancs clairs)
- Lignes uniformes sur la totalité de l'écran (idéal pour une utilisation CAD/CAM)



The electron beam is "dynamically formed" as it passes through the quadrupolar electrode system and undesirable "halo" effects are completely eliminated.

Das elektronische Strahlenbündel wird "dynamisch geformt" wenn es das vierpolige Elektrodensystem passiert, wodurch der unerwünschte "Lichthof" Effekt völlig ausgeschaltet wird.

Le faisceau d'électrons est "formé dynamiquement" lorsqu'il passe par le système d'électrodes quadripolaires et des effets indésirables de "halo" sont de ce fait complètement éliminés.

Superior Diamond Matte (DM) Coating

Hochwertiger Glasfaserüberzug (DM)

Revêtement de qualité supérieure DM (trame losange)

Mitsubishi's new DM coating is a glare-free treatment developed to counteract the problems of direct etching on color CRTs. Particulate silica is chemically deposited on to the panel glass to form a durable, permanently bonded amorphous silica coating.

- Absolutely no glare
- Minimal effect on resolution
- No distracting sparkle (scattering) effects
- Tough and durable
- Suppresses static build-up

DM coating is scratch- and chemical-resistant (except for strong acids and bases). It is also smooth, to diffuse light without the sparkle (scattering) or loss of resolution common to direct etching, and suppresses static build-up.

Der von Mitsubishi neu entwickelte Glasfaserüberzug ist eine blendfreie Ausrüstung, mit deren Hilfe dem Problem des direkten Ätzens auf den Farb-CRTs begegnet werden soll. Eine besondere Kieselerde wird auf chemischem Weg direkt auf die Frontplatte aufgebracht, um so einen haltbaren Überzug mit einer permanenten Verbindung aus amorpher Kieselerde zu erhalten.

- Absolut blendfrei
- Minimale Effekte bezüglich der Auflösung
- Keine störenden flimmernden (zerstreuenden) Effekte
- Robust und haltbar
- Unterdrückt statische Aufladung

Der Glasfaserüberzug ist widerstandsfähig gegenüber Kratzern und Chemikalien (außgenommen starke Säuren und Basen). Außerdem ist der Überzug eben, um so das Licht zu zerstreuen, ohne daß dabei ein Flimmern entsteht oder eine Verminderung des Auflösungsvermögens, wie man dies von direkter Ätzung her kennt. Zusätzlich unterdrückt dieser Überzug die statische Aufladung.

Le nouveau revêtement à trame losange (DM) de Mitsubishi est un traitement anti-reflet mis au point pour pallier aux problèmes de corrosion ddirecte sur les C.R.T. couleur. Un silice particulier est déposé chimiquement sur la vitre du panneau pour former un revêtement de silice amorphe durable et de liaison permanente.

- Absence totale de reflet
- Effet minimal sur la résolution
- Aucun effet distrayant d'éclat (dispersion)
- Solide et durable
- Supprime l'accumulation statique

Le revêtement DM est résistant aux rayures et aux produits chimiques (à l'exception d'acides et de bases puissants). Il est également lisse, de façon à diffuser la lumière sans présenter l'éclat (dispersion) ou la perte de résolution communes à la corrosion directe, et de plus supprime l'accumulation statique.

Designation of Phosphors

Kennzeichnung der Phosphate

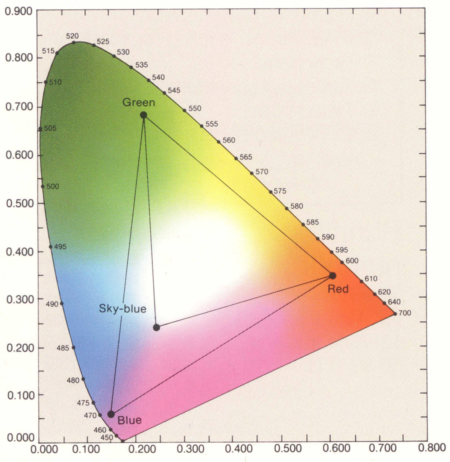
Dénomination des luminophores

Mitsubishi has developed its own advanced phosphor formulations for maximum brightness and persistence over the widest color palette.

Mitsubishi hat eine eigene hochentwickelte Phosphor-Formel entwickelt, mit deren Hilfe ein Höchstmaß an Leuchtkraft und Ausdauer für die breiteste Farbpalette entsteht.

Mitsubishi a mis au point ses propres formules de luminopores fort perfectionnées qui permettent une luminosité et une persistance maximales sur une palette de couleurs extrêmement large.

Mitsubishi Phosphor Palette



Phosphor Types Available

Type	Remarks
B22	R/G/B normal persistence
BW3	R/G/Sky Blue normal persistence
BL7	R/G/B medium persistence
BL8	R/G/Sky Blue long persistence
BL9	R/G/B long persistence
MB4	R/G/B medium persistence

Selecting a Mitsubishi Color Display Monitor
Zur Auswahl eines Mitsubishi Farb-Display-Monitors
Sélection d'un moniteur à affichage couleur Mitsubishi

ANALOG											
60 ~ 90 kHz 1500 Lines		60 ~ 65 kHz 1000 Lines		45 ~ 50 kHz 700 Lines		28 ~ 35 kHz 400 ~ 540 Lines		20 ~ 24 kHz 350 ~ 400 Lines		15 ~ 20 kHz 200 ~ 350 Lines	
						HF3200	0.31	HF2200	0.31	HF1200	0.31
						XC-1412C *XC-1422C XC-1429C *XC-1449C	0.31 0.31 0.28 0.28				
						HF3400	0.31	HF2400	0.31	HF1400	0.31
						FA3415/FA3425 (AUTO)					0.28
						FHF3500	0.31			FHF1500	0.31
		FG6605			0.26						
		HL6605/FL6605 (AUTO)					0.31/0.26				
		HG6905			0.31	HF3900	0.31	HF2900	0.31		
						C-6922	0.31	C-3922			0.31
						UC-6922 RACK-MOUNTABLE	0.31	UC-3922 RACK-MOUNTABLE			0.31
(FJ9905) (AUTO)	0.25	HJ6905 (AUTO)			0.31	HA3905 (AUTO)					0.31
		HL6905 (AUTO)					0.31				
(FFJ9105) (AUTO)	0.25	(FHJ6105) (AUTO)			0.31	(FHJ3105) (AUTO)					0.31
		(HJ6505) (AUTO)			0.31	C-6512	0.37	C-3510			0.37
						(HJ3505) (AUTO)					0.31
						XC-3710/3720 (AUTO)					1.0S

XC type is IBM PC plug compatible, except XC-1434C (AT & T compatible)
Models in parenthesis will be available in the near future.
(AUTO) stands for Auto-Tracking.
*Asterisk presents European Version (High Voltage).

Current System (L, A, J, G & F Series)

	H	F	3	6	00	L9	A	G	K	E

CRT
None: Std.
F: Flat Square

Shadow mask
M: 0.4mm Stripe
H: 0.31mm
F: 0.26mm/0.28mm
U: 0.21mm

Chassis type

Line rate
1: 15-19kHz
2: 20-24kHz
3: 15-35kHz (AUTO)
3: 28-35kHz
4:
5:
6: 30-64kHz (AUTO)
6: 40-70kHz
9: 60-90kHz (AUTO)

CRT size
5: 26V inch
9: 20V inch
6: 16 inch
5: 15 inch
4: 14 inch
2: 12 inch
1: 21 inch

Running number
00-49: Analog
05: Auto tracking
15: Auto tracking
50-99: TTL

Phosphor type

Type	Remarks
None	: B22 — R/G/B normal persistence
W3	: BW3 — R/G/Sky Blue normal persistence
L7	: BL7 — R/G/B medium persistence
L8	: BL8 — R/G/Sky Blue long persistence
L9	: BL9 — R/G/B long persistence
M4	: BM4 — R/G/B medium persistence
S	: D.B.F CRT

Surface
A: Diamond matte coated
B: PPG with AR coating (bonded panel)
D: Gray panel
G: Super high contrast glass
T: Tinted panel
H: Dark tinted panel

Cabinet
K: Cabinet
None: Module

E: Europe
None: U.S.A.

C Series

C	—	6	9	20

C: Color
M: Monochrome

Line rate
3: 15-20kHz
5: 20-25kHz
6: 28-36kHz
8: 40-45kHz
9: 60-70kHz

CRT size
5: 25V inch
9: 19V inch
6: 16 inch
5: 15 inch
4: 14 inch
2: 12 inch

Running number

Phosphor type
LP: Long persistence
W: Bluish white instead of blue
None: Normal persistence

MODE	TTL					
f(H)	15 ~ 20 kHz		20 ~ 26 kHz		28 ~ 35 kHz	
Lines	200 ~ 350 Lines		350 ~ 400 Lines		400 ~ 540 Lines	
11″V (12″)	HF1250	0.31	HF2250	0.31	HF3250	0.31
13″V (14″)	XC-1409C *XC-1419C	0.4S 0.4S	XC-1410C *XC-1420C XC-1430C *XC-1440C XC-1434C	0.4S 0.4S 0.31 0.31 0.31		
	HF1450	0.31	HF2450	0.31	HF3450	0.31
	FA3415/FA3425 (AUTO)					0.28
15″V (16″)						
19″V (20″)						
	HA3905 (AUTO)					0.31
20″V (21″) (FLAT SQUARE)						
25″V (26″)						
35″V (37″)	XC-3710/3720 (AUTO)					1.0S

key
- L series
- A series
- J series
- XC series
- G series
- F series
- C series

LP | A | (blank)

Surface
A: Antiglare coating
B: PPG panel multicoating

Panel transmittance
G: Super high contrast glass
(45%)

X Series

XC | — | 14 | 29 | C

XC: Color
XM: Monochrome

Size
12: 12 inch
14: 14 inch
16: 16 inch
37: 37 inch

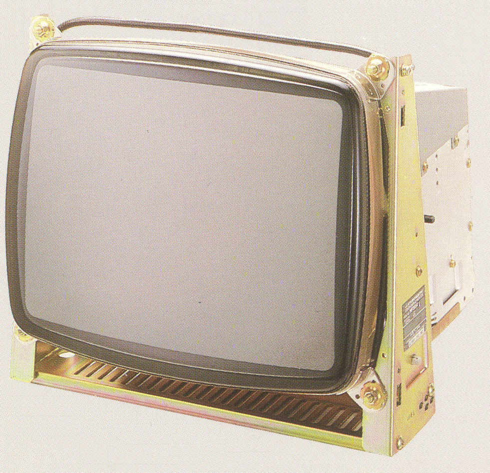
Running number

C: Cabinet
U: Module

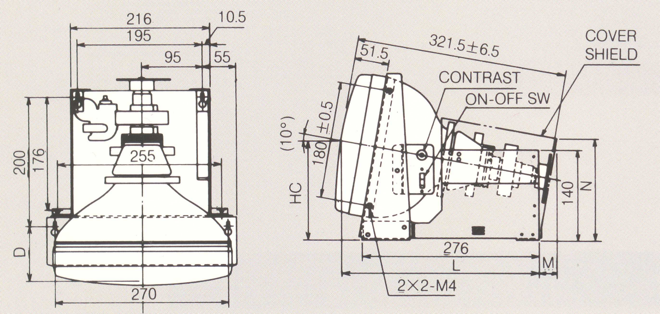
*IBM is a registered trade mark of International Business Machines.

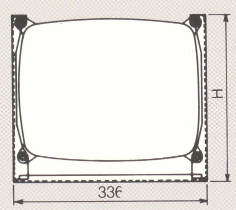
12 HF Series Monitors for Computer Terminals
HF Serien-Monitore für Computer-Terminals
HF Moniteurs de série pour terminaux d'or

MODULE



DIMENSIONS (mm)

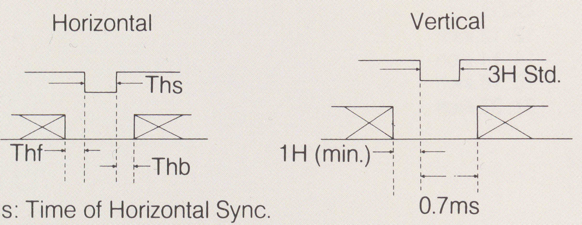




CRT TILT	H (±3)	HC (±3)	D (TPY)	L (±5)	M	N
0°	259	144	120.5	331.5	4)	4)
2.5°	259.4	147.7	114.5	325.5	4)	4)
5°	259.3	149.2	108.3	319.3	4)	4)
7.5°	258.7	151.4	102.1	313.1	36	155
10°	257.6	153.2	95.7	306.7	36	155

1) Dimensional tolerances unless otherwise special ±3.
2) Dimension not including screw.
3) Standard cover shield can be applied to chassis with CRT tilt 7.5° & 10°.
4) Optional cover shield will be applied to chassis with CRT tilt 0°, 2.5°, 5 5°

RECOMMENDED TIMING CHART



Ths: Time of Horizontal Sync.
Thf: Time of Horizontal Front Porch.
Thb: Time of Horizontal Back Porch.

	HF1200	HF2200
CRT		
Size	11"V	11"V
Gun	In-line	In-line
Deflection angle	90°	90°
Neck diameter	29.1mm	29.1mm
Radius of curvature	646.8mm	646.8mm
Dot pitch	0.31mm	0.31mm
Phosphors	Red, green, blue	Red, green, blue
Displayed colors	INFINITE	INFINITE
CRT tilt	0°, 2.5°, 5°, 7.5°, 10°	0°, 2.5°, 5°, 7.5°, 10°
Input signal		
Composite video	1.0Vp-p (pos.) RGB	1.0Vp-p (pos.) RGB
Composite sync	1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)
Video	0.7Vp-p (pos.)	0.7Vp-p (pos.)
Separate sync (HD)	1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)
Separate sync (VD)	1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)
Video		
Band width	50Hz~45MHz±3dB	50Hz~45MHz±3dB
Pulse rise time	12ns (max.)	12ns (max.)
Pulse fall time	12ns (max.)	12ns (max.)
Resolution (H×V)	640×480 (typ.)	720×540 (typ.)
Display size	220×160mm	210×155mm
Horizontal		
Scanning frequency (one point)	15.5~20kHz	20~25kHz
Blanking time	10μs	8μs
Sync pulse width	5μs	3.3μs
Vertical		
Scanning frequency	40~70Hz	40~70Hz
Blanking time	0.8ms	0.8ms
Sync pulse width	3H	3H
Convergence		
Center circle with vert. height diameter	0.2mm(typ.)	0.2mm(typ.)
Elsewhere	0.4mm(typ.)	0.4mm(typ.)
Power supply		
Voltage	100~120VAC±10% or 200~240VAC±10%	100~120VAC±10% or 200~240VAC±10%
Power consumption	60W	63W
Connector types		
Signal	BNC connector	BNC connector
Video impedance	75Ω or high	75Ω or high
Sync impedance	75Ω or high	75Ω or high
Power	CEE22 3P receptacle	CEE22 3P receptacle
Operating temperature	0~55°C (without cabinet)	0~55°C (without cabinet)
Weight	9.5kg	9.5kg
Recommended timing		
Ths	5μs	3.3μs
Thf	1.3μs	1.3μs
Thb	8.8μs	7.2μs

*Cabinet type is not available

and Computer Graphics
und Computer-Grafiken
dinateurs et graphiques sur ordinateur

HF3200	HF1250	HF2250	HF3250
11″V	11″V	11″V	11″V
In-line	In-line	In-line	In-line
90°	90°	90°	90°
29.1mm	29.1mm	29.1mm	29.1mm
646.8mm	646.8mm	646.8mm	646.8mm
0.31mm	0.31mm	0.31mm	0.31mm
Red, green, blue	Red, green, blue	Red, green, blue	Red, green, blue
INFINITE	16	16	16
0°, 2.5°, 5°, 7.5°, 10°	0°, 2.5°, 5°, 7.5°, 10°	0°, 2.5°, 5°, 7.5°, 10°	0°, 2.5°, 5°, 7.5°, 10°
1.0Vp-p (pos.) RGB	—	—	—
1.5~5Vp-p (neg.)	—	—	—
0.7Vp-p (pos.)	TTL (pos.)	TTL (pos.)	TTL (pos.)
1.5~5Vp-p (neg.)	TTL (pos. or neg.)	TTL (pos. or neg.)	TTL (pos. or neg.)
1.5~5Vp-p (neg.)	TTL (pos. or neg.)	TTL (pos. or neg.)	TTL (pos. or neg.)
50Hz~45MHz±3dB	—	—	—
12ns (max.)	12ns (max.)	12ns (max.)	12ns (max.)
12ns (max.)	12ns (max.)	12ns (max.)	12ns (max.)
1024×780 pixels (typ.)	640×480 (typ.)	720×540 (typ.)	1024×780 pixels (typ.)
210×155mm	210×155mm	210×155mm	210×155mm
30~35kHz	15.5~20kHz	20~25kHz	30~35kHz
6.5μs	10μs	8μs	6.5μs
2.5μs	5μs	3.3μs	2.5μs
40~70Hz	40~70Hz	40~70Hz	40~70Hz
0.8ms	0.8ms	0.8ms	0.8ms
3H	3H	3H	3H
0.2mm(typ.)	0.2mm(typ.)	0.2mm(typ.)	0.2mm(typ.)
0.4mm(typ.)	0.4mm(typ.)	0.4mm(typ.)	0.4mm(typ.)
100~120VAC±10% or 200~240VAC±10%	100~120VAC±10% or 200~240VAC±10%	100~120VAC±10% or 200~240VAC±10%	100~120VAC±10% or 200~240VAC±10%
67W	60W	63W	67W
BNC connector	D-SUB 15P	D-SUB 15P	D-SUB 15P
75Ω or high	820Ω pull-up and down	820Ω pull-up and down	820Ω pull-up and down
75Ω or high	820Ω pull-up and down	820Ω pull-up and down	820Ω pull-up and down
CEE22 3P receptacle	CEE22 3P receptacle	CEE22 3P receptacle	CEE22 3P receptacle
0~55°C (without cabinet)	0~55°C (without cabinet)	0~55°C (without cabinet)	0~55°C (without cabinet)
9.5kg	9.5kg	9.5kg	9.5kg
2.5μs	5μs	3.3μs	2.5μs
1.1μs	1.3μs	1.3μs	1.1μs
6.3μs	8.8μs	7.2μs	6.0μs

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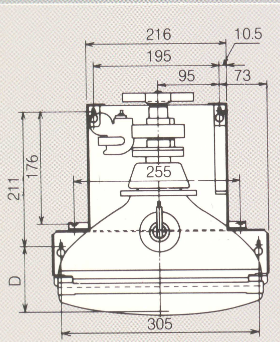
HF Serien-Monitore für Computer-Terminals

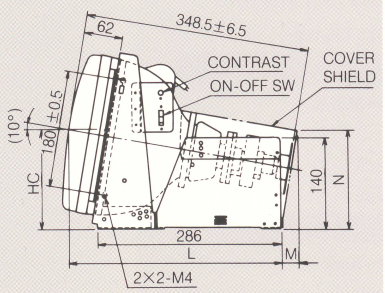
HF Moniteurs de série pour terminaux d'or

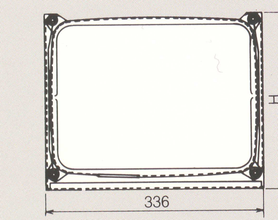
CABINET

W: 370 mm
H: 335 mm
D: 406 mm

DIMENSIONS (mm)



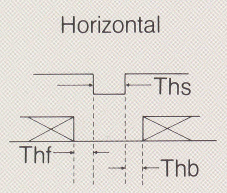


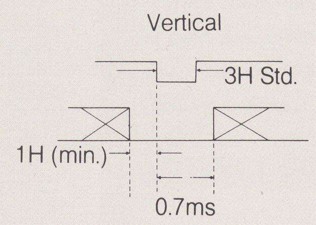


CRT TILT	H (±3)	HC (±3)	D (TPY)	L (±5)	M	N
0°	274	142	128.5	352.5	4)	4)
2.5°	274.4	145.2	122.9	346.9	4)	4)
5°	247.3	148.2	117.2	341.2	4)	4)
7.5°	273.8	151	111.4	335.4	36	155
10°	272.7	153.5	105.5	329.5	36	155

1) Dimensional tolerances unless otherwise special ±3.
2) Dimension not including screw.
3) Standard cover shield can be applied to chassis with CRT tilt 7.5° & 10°.
4) Optional cover shield will be applied to chassis with CRT tilt 0°, 2.5°, 5 5°.

RECOMMENDED TIMING CHART





•Module type is not available.

	HF1400	HF2400
CRT		
Size	13″V	13″V
Gun	In-line	In-line
Deflection angle	90°	90°
Neck diameter	29.1mm	29.1mm
Radius of curvature	575mm	575mm
Dot pitch	0.31mm	0.31mm
Phosphors	Red, green, blue	Red, green, blue
Displayed colors	INFINITE	INFINITE
CRT tilt	0°, 2.5°, 5°, 7.5°, 10°	0°, 2.5°, 5°, 7.5°, 10°
Input signal		
Composite video	1.0Vp-p (pos.) RGB	1.0Vp-p (pos.) RGB
Composite sync	1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)
Video	0.7Vp-p (pos.)	0.7Vp-p (pos.)
Separate sync (HD)	1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)
Separate sync (VD)	1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)
Video		
Band width	50Hz~45MHz±3dB	50Hz~45MHz±3dB
Pulse rise time	12ns (max.)	12ns (max.)
Pulse fall time	12ns (max.)	12ns (max.)
Resolution (H×V)	640×480 (typ.)	720×540 (typ.)
Display size	240×180mm	240×180mm
Horizontal		
Scanning frequency (one point)	15.5~20kHz	20~25kHz
Blanking time	10μs	8μs
Sync pulse width	5μs	3.3μs
Vertical		
Scanning frequency	40~70Hz	40~70Hz
Blanking time	0.8ms	0.8ms
Sync pulse width	3H	3H
Convergence		
Center circle with vert. height diameter	0.2mm (typ.)	0.2mm (typ.)
Elsewhere	0.4mm (typ.)	0.4mm (typ.)
Power supply		
Voltage	100~120VAC±10% or 200~240VAC±10%	100~120VAC±10% or 200~240VAC±10%
Power consumption	60W	63W
Connector types		
Signal	BNC connector	BNC connector
Video impedance	75Ω or high	75Ω or high
Sync impedance	75Ω or high	75Ω or high
Power	CEE22 3P receptacle	CEE22 3P receptacle
Operating temperature	0~55°C (without cabinet)	0~55°C (without cabinet)
	0~40°C (with cabinet)	0~40°C (with cabinet)
Weight	11kg	11kg
Recommended timing		
Ths	5μs	3.3μs
Thf	1.3μs	1.3μs
Thb	8.8μs	7.2μs
T&S (option)*	XS-0001	XS-0001

*Tilt and Swivel base.

and Computer Graphics
und Computer-Grafiken
dinateurs et graphiques sur ordinateur

HF3400	HF1450	HF2450	HF3450
13″V	13″V	13″V	13″V
In-line	In-line	In-line	In-line
90°	90°	90°	90°
29.1mm	29.1mm	29.1mm	29.1mm
575mm	575mm	575mm	575mm
0.31mm	0.31mm	0.31mm	0.31mm
Red, green, blue	Red, green, blue	Red, green, blue	Red, green, blue
INFINITE	16	16	16
0°, 2.5°, 5°, 7.5°, 10°	0°, 2.5°, 5°, 7.5°, 10°	0°, 2.5°, 5°, 7.5°, 10°	0°, 2.5°, 5°, 7.5°, 10°
1.0Vp-p (pos.) RGB	—	—	—
1.5Vp-p (neg.)	—	—	—
0.7Vp-p (pos.)	TTL (pos.)	TTL (pos.)	TTL (pos.)
1.5~5Vp-p (neg.)	TTL (pos. or neg.)	TTL (pos. or neg.)	TTL (pos. or neg.)
1.5~5Vp-p (neg.)	TTL (pos. or neg.)	TTL (pos. or neg.)	TTL (pos. or neg.)
50Hz~45MHz±3dB	—	—	—
12ns (max.)	12ns (max.)	12ns (max.)	12ns (max.)
12ns (max.)	12ns (max.)	12ns (max.)	12ns (max.)
1024×780 pixels (typ.)	640×480 (typ.)	720×540 (typ.)	1024×780 pixels (typ.)
240×180mm	240×180mm	180×240mm	180×240mm
30~35kHz	15.5~20kHz	20~25kHz	30~35kHz
6.5μs	10μs	8μs	6.5μs
2.5μs	5μs	3.3μs	2.5μs
40~70Hz	40~70Hz	40~70Hz	40~70Hz
0.8ms	0.8ms	0.8ms	0.8ms
3H	3H	3H	3H
0.2mm (typ.)	0.2mm (typ.)	0.2mm (typ.)	0.2mm (typ.)
0.4mm (typ.)	0.4mm (typ.)	0.4mm (typ.)	0.4mm (typ.)
100~120VAC±10% or 200~240VAC±10%	100~120VAC±10% or 200~240VAC±10%	100~120VAC±10% or 200~240VAC±10%	100~120VAC±10% or 200~240VAC±10%
67W	60W	63W	67W
BNC connector	D-SUB 15P	D-SUB 15P	D-SUB 15P
75Ω or high	820Ω pull-up and down	820Ω pull-up and down	820Ω pull-up and down
75Ω or high	820Ω pull-up and down	820Ω pull-up and down	820Ω pull-up and down
CEE22 3P receptacle	CEE22 3P receptacle	CEE22 3P receptacle	CEE22 3P receptacle
0~55°C (without cabinet)	0~55°C (without cabinet)	0~55°C (without cabinet)	0~55°C (without cabinet)
0~40°C (with cabinet)	0~40°C (with cabinet)	0~40°C (with cabinet)	0~40°C (with cabinet)
11kg	11kg	11kg	11kg
2.5μs	5μs	3.3μs	2.5μs
0.8μs	1.3μs	1.3μs	1.1μs
6.0μs	8.8μs	7.2μs	6.0μs
XS-0001	XS-0001	XS-0001	XS-0001

14 Plug-Compatible Display Monitors for Pers
Display Monitore mit Angleichung an Perso
Moniteurs d'affichage enfichables pour ordi

A type

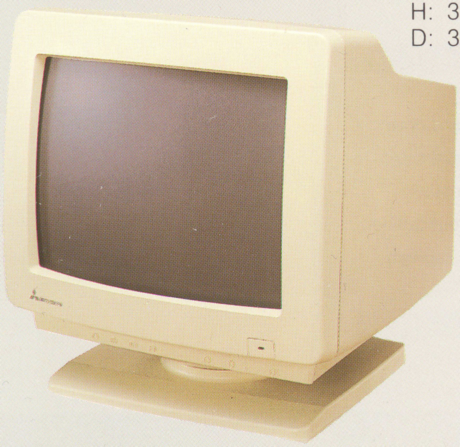
W: 354 mm
H: 303 mm
D: 380 mm

B type

W: 354 mm
H: 312 mm
D: 390 mm

C type

W: 354 mm
H: 312 mm
D: 390 mm



	XC-1409C (XC-1419C)	XC-1410C (XC-1420C)
Applications	**IBM PC/XT PC-AT**	**IBM PC-AT**
	CGA	**EGA**
	Plug-compatible	**Plug-compatible**
CRT		
Size, gun	13″V multi-step focus	13″V multi-step focus
Mask pitch	0.4mm (stripe)	0.4mm (stripe)
Phosphor	P22	P22
Faceplate	Non-glare Tinted	Non-glare Tinted
Display size	256 × 178mm	256 × 178mm
Display colors	16	64 colors at 350 line 16 colors at 200 line
Resolution (H × V)	640 × 200	640 × 200 640 × 350
Input signal		
Video	RGB TTL (pos.)	RGB TTL (pos.)
Separate sync (HD)	TTL (pos.)	TTL (pos.)
Separate sync (VD)	TTL (pos.)	TTL (350 line: neg. 200 line: pos.)
Intensity	TTL (pos.)	—
Composite sync		
Input connector	9-pin D-shell (with cable)	9-pin D-shell (with cable)
Scanning frequency	H: 15.7kHz, V: 60Hz	22kHz or 15.7kHz Depending on sync. polarity
Power supply		
Voltage	120V AC, 60Hz	120V AC, 60Hz
Power consomption	65W	80W
European version	**XC-1419C** (Receptacle only, without power cord) 220～240VAC, 50/60Hz	**XC-1420C** (Receptacle only, without power cord) 220～240VAC, 50/60Hz
Degaussing	Power on auto degaussing	Power on auto degaussing
Weight	13kg	13kg
International standards	**XC-1409C** UL, CSA, FCC-B	**XC-1410C** UL, CSA, FCC-B
	XC-1419C VDE 0871-B, IEC380	**XC-1420C** VDE 0871-B, IEC380
Cabinet	A type	A type
Module	Not available	Not available
T&S (option)	XS-0001	XS-0001

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XC-1430C (XC-1440C)	XC-1434C	XC-1412C (XC-1422C)	XC-1429C (XC-1449C)	FA3415ATK (FA3415ATKE)	FA3425L9ATK (FA3425L9ATKE)
IBM PC-AT	**ATT**	**IBM PC-AT**	**IBM PS/2**	**IBM PC/XT, AT, PS/2 APPLE MACII**	**IBM PC/XT, AT, PS/2 APPLE MACII**
EGA		**PGC**	**MCGA, VGA**	**CGA, EGA, PGC, MCGA, VGA**	**CGA, EGA, PGC, MCGA, VGA, 8514**
Plug-compatible	**Plug-compatible**	**Plug-compatible**	**Plug-compatible**	**Compatible**	**Compatible**
				Automatic tracking	**Automatic tracking**
13″V multi-step focus	13″V Bi-Uni	13″V multi-step focus	13″V XF-GUN	13″V XF-GUN	13″V XF-GUN
0.31mm (dot)	0.31mm (dot)	0.31mm (dot)	0.28mm (dot)	0.28mm (dot)	0.28mm (dot)
P22	P22	P22	P22	P22	M4 or L9
Non-glare Tinted	Non-glare Tinted	Non-glare Tinted	Non-glare Tinted	Non-glare Tinted	Non-glare Tinted
256 × 178mm	240 × 180mm	240 × 180mm	240 × 180mm	240 × 180mm	240 × 180mm
64 colors at 350 line 16 colors at 200 line	16	Infinite	Infinite	Infinite	Infinite
640 × 200 640 × 350	640 × 400	640 × 480/640 × 400	640 × 480/640 × 400 640 × 350	850 × Variable lines	1024 × Variable lines
RGB TTL (pos.)	TTL (pos.)	Analogue 0.7Vpp	Analogue 0.7Vpp	Video: Analogue (0.7Vpp) TTL (pos.)	Video: Analogue (0.7Vpp) TTL (pos.)
TTL (pos.)	TTL (pos.)	—	TTL (pos./neg.)	TTL (pos./neg.)	TTL (pos./neg.)
TTL (350 line: neg. 200 line: pos.)	TTL (pos.)	—	TTL (pos./neg.)	TTL (pos./neg.)	TTL (pos./neg.)
—	—			TTL (pos.)	TTL (pos.)
		TTL (neg.)		TTL (neg.) Sync on Green	TTL (neg.) Sync on Green
9-pin D-shell (with cable)	9-pin D-shell (with cable)	9-pin D-shell (with cable)	Shrink D-sub 15P (with cable)	Shrink D-sub 15P	Shrink D-sub 15P/BNC
22kHz or 15.7kHz Depending on sync. polarity	H: 24.5~26.5kHz V: 50~70Hz	H: 30.488kHz, V: 60Hz	H: 31.5kHz, V: 60Hz/70Hz	H: 15.7k~35.5kHz V: 45~80Hz	H: 15.7k~35.5kHz V: 50~87Hz Interlaceable
120VAC, 60Hz	120VAC, 60Hz (90~132VAC)	120VAC, 60Hz	120VAC, 60Hz	120VAC, 60Hz	120VAC, 60Hz
80W	75W	100W	70W	90W	90W
XC-1440C (Receptacle only, without power cord) 220~240VAC, 50/60Hz		**XC-1422C** (Receptacle only, without power cord) 220~240VAC, 50/60Hz	**XC-1449C** (Receptacle only, without power cord) 220~240VAC, 50/60Hz	**FA3415ATKE** (Receptacle only, without power cord) 220~240VAC, 50/60Hz	**FA3425L9ATKE** (Receptacle only, without power cord) 220~240VAC, 50/60Hz
Power on auto degaussing	Power on auto degaussing	Power on auto degaussing	Power on auto degaussing	Power on auto degaussing	Power on auto degaussing
13kg	13kg	13kg	12kg	14kg	14kg
XC-1430C UL, CSA, FCC-B	**XC-1434C** UL, CSA, FCC-B	**XC-1412C** UL, CSA, FCC-B	**XC-1429C** UL, CSA, FCC-B	**FA3415ATK** UL, CSA, FCC-B	**FA3425L9ATK** UL, CSA, FCC-B
XC-1440C VDE 0871-B, IEC380		**XC-1422C** VDE 0871-B, IEC380	**XC-1449C** VDE 0871-B, IEC380	**FA3415ATKE** VDE 0871-B, IEC380	**FA3425L9ATKE** VDE 0871-B, IEC380
A type	A type	A type	B type	C type	C type
Not available	Not available	Not available	Not available	Not available	Available soon
XS-0001	XS-0001	XS-0001	XS-0004	XS-0004	XS-0004

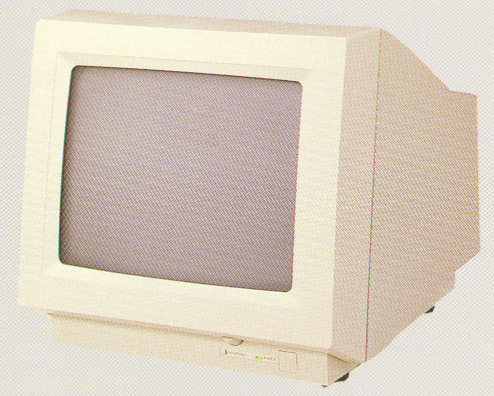
16 Display Monitors for Engineering Work Stat

Display Monitore für technische Arbeitsstatio

Moniteurs d'affichage 16 pouces pour statio

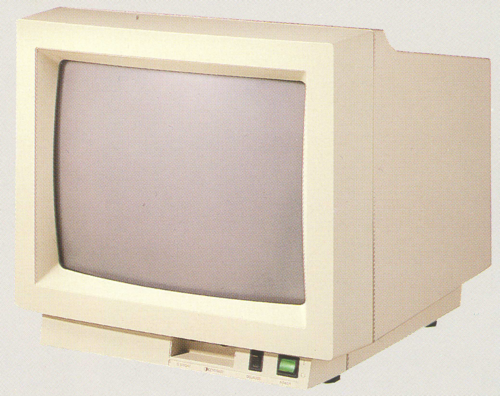
A type

W: 370 mm
H: 335 mm
D: 406 mm

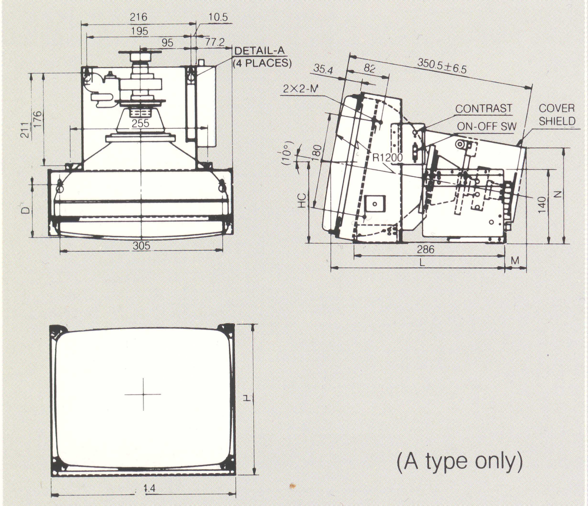


B type

W: 410 mm
H: 366 mm
D: 455 mm



DIMENSIONS (mm)



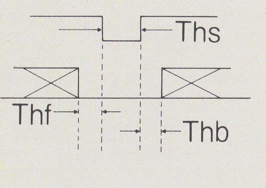
(A type only)

C type

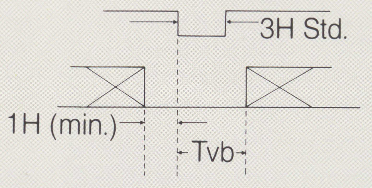
W: 400 mm
H: 357 mm
D: 456 mm

RECOMMENDED TIMING CHART

Horizontal



Vertical



CRT
Size
Gun
Deflection angle
Neck diameter
Radius of curvature
Dot pitch
Phosphors
CRT tilt
Input signal
Composite video
Composite sync
Video
Separate sync (HD)
Separate sync (VD)
Video
Band width
Pulse rise time
Pulse fall time
Resolution (H×V)
Display size
Horizontal
Scanning frequency (one point)
Blanking time
Sync pulse width
Vertical
Scanning frequency
Blanking time
Sync pulse width
Convergence
Center circle with vert. height diameter
Elsewhere
Power supply
Voltage
Power consumption
Connector types
Signal
Video impedance
Sync impedance
Operating temperature
Weight
Recommended timing
Ths
Thf
Thb
Tvb
Cabinet
Module type
T&S (option)

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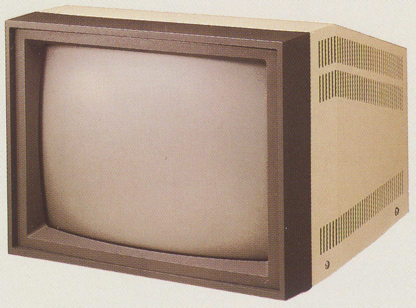
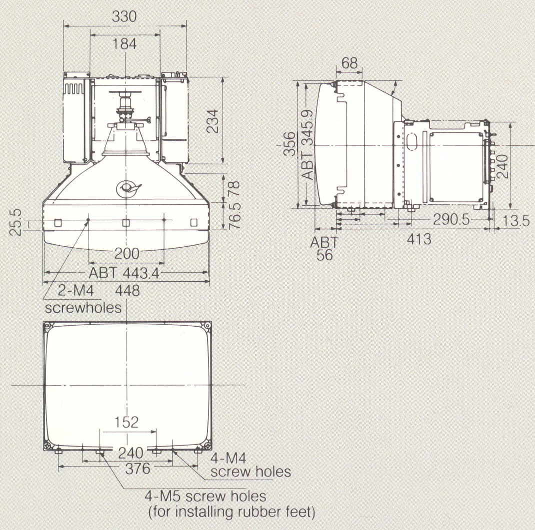
FHF1500	FHF3500	FG6605	HL6605 (FL6605)
15″ (14″V) Flat square	15″ (14″V) Flat square	15″V	15″V
In-line	In-line	In-line	In-line
90°	90°	90°	90°
29.1mm	29.1mm	29.1mm	29.1mm
1,200mm	1,200mm	653mm	653mm
0.31mm	0.31mm	0.26mm	0.26mm (FL6605) 0.31mm (HL6605)
Red, green, blue	Red, green, blue	Red, green, blue	Red, green, blue
0°, 2.5°, 5°, 7.5°, 10°	0°, 2.5°, 5°, 7.5°, 10°	—	—
1.0Vp-p (pos.) RGB	1.0Vp-p (pos.) RGB	1.0Vp-p RGB	1.0Vp-p RGB
1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)	1.0~5Vp-p (neg.)	2.0~5Vp-p (neg./pos.)
0.7Vp-p (pos.)	0.7Vp-p (pos.)	0.7Vp-p (pos.) RGB	0.7Vp-p (pos.) RGB
1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)	1.0~5Vp-p (neg.)	2.0~5Vp-p (neg./pos.)
1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)	1.0~5Vp-p (neg.)	2.0~5Vp-p (neg./pos.)
50Hz~45MHz±3dB	50Hz~45MHz±3dB	50Hz~100MHz±3dB	50Hz~100MHz±3dB
12ns (max.)	12ns (max.)	5ns (typ.)	5ns (typ.)
12ns (max.)	12ns (max.)	5ns (typ.)	5ns (typ.)
640×480 (typ.)	1024×780 (typ.)	1280×1024 pixels (typ.)	1280×1024 pixels (typ.)
260×195mm	260×195mm	280×210mm	280×210mm
15.5~20kHz	30~35kHz	40~67kHz Tap selectable	30~64kHz Auto-tracking 16 timings presettable
10μs	6.5μs	5.5μs (40~48Hz) 4.0μs (48~67Hz)	
5μs	2.5μs	1.5μs (typ.)	1.5μs (typ.)
40~70Hz	40~70Hz	50~75Hz	50~90Hz
0.8ms	0.8ms	0.60ms	0.6ms
3H	3H	3H (typ.)	3H (typ.)
0.2mm (typ.)	0.2mm (typ.)	0.2mm (typ.)	0.2mm (typ.)
0.3mm (typ.)	0.3mm (typ.)	0.3mm (typ.)	0.3mm (typ.)
100~120VAC±10% or 220~240VAC±10%	100~120VAC±10% or 220~240VAC±10%	100~120VAC±10% or 220~240VAC±10%	100~120VAC±10% or 220~240VAC±10%
63W	70W	160W	140W
BNC	BNC	BNC	BNC
75Ω or high	75Ω or high	75Ω or high	75Ω or high
75Ω or high	75Ω or high	75Ω or high	75Ω or high
0~40°C (with cabinet) 0~55°C (without cabinet)	0~40°C (with cabinet) 0~55°C (without cabinet)	0~40°C (with cabinet) 0~55°C (without cabinet)	0~40°C (with cabinet) 0~55°C (without cabinet)
15kg	15kg	24kg	19kg
5μs	2.5μs	2.0μs	2.0μs
1.3μs	1.1μs	0.3μs (min.)	0.3μs (min.)
8.8μs	6.0μs	3.7μs (min) (48~67KHz) 5.2μs (min) (40~48KHz)	3.7μs (min) (48~64KHz) 5.2μs (min) (40~48KHz) 6.0μs (min) (30~40KHz)
0.7ms	0.7ms	0.6ms	0.6ms
A type	A type	B type	C type
Available	Available	Not available	Available soon
XS-0001	XS-0001	XS-0001	XS-0004

20 Display Monitors for CAD-CAM, PC-CAD
Display Monitore für CAD-CAM, PC-CAD
Moniteurs d'affichage pour CAD-CAM, PC-

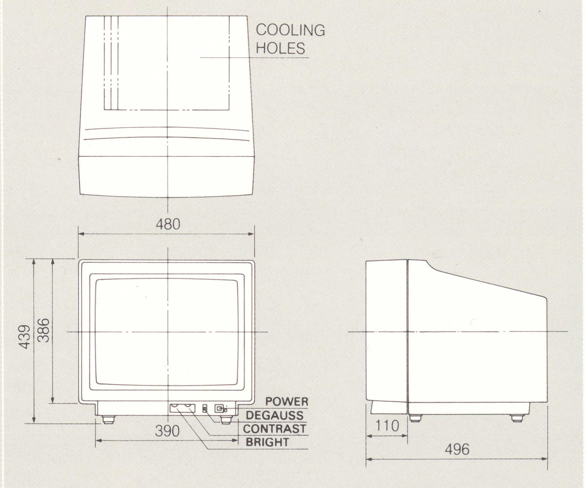
A type	B type
W: 482 mm H: 443 mm D: 482 mm	W: 480 mm H: 419 mm D: 496 mm



DIMENSIONS (mm) — A type

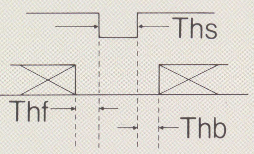


DIMENSIONS (mm) — B type

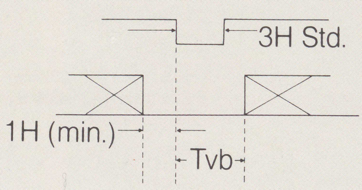


RECOMMENDED TIMING CHART

Horizontal



Vertical



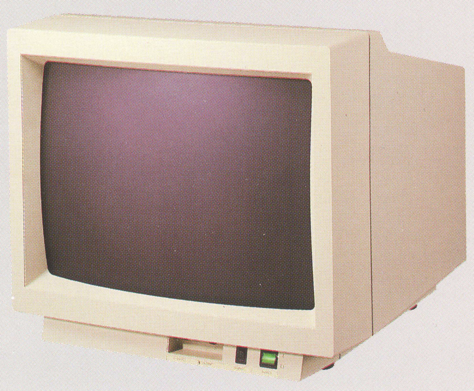
CRT
Size
Gun
Deflection angle
Neck diameter
Radius of curvature
Dot pitch
Phosphors
Displayed colors
Input signal
Composite video
Composite sync
Video
Separate sync (HD)
Separate sync (VD)
Video
Band width
Pulse rise time
Pulse fall time
Resolution (H×V)
Display size
Horizontal
Scanning frequency (one point)
Blanking time
Sync pulse width
Vertical
Scanning frequency
Blanking time
Sync pulse width
Convergence
Center circle with vert. height diameter
Elsewhere
Power supply
Voltage
Power consumption
Connector types
Signal
Power
Operating temperature
Weight
Recommended timing
Cabinet
Module type
T&S (option)

and High-Grade Computer Graphics
und Grafiken mit hochqualitativen Computern
CAD et graphiques sur ordinateur haute qualité

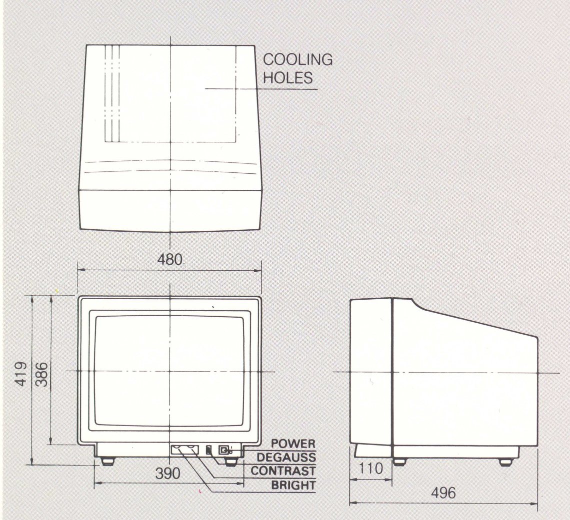
HF2900	HF3900	C3922	C6922	UC3922	UC6922
19″V	19″V	19″V	19″V	19″V	19″V
In-line	In-line	In-line	In-line	In-line	In-line
90°	90°	90°	90°	90°	90°
29.1mm	29.1mm	29.1mm	29.1mm	29.1mm	29.1mm
819.7mm	819.7mm	819.7mm	819.7mm	819.7mm	819.7mm
0.31mm	0.31mm	0.31mm	0.31mm	0.31mm	0.31mm
Red, green, blue	Red, green, blue	Red, green, blue	Red, green, blue	Red, green, blue	Red, green, blue
INFINITE	INFINITE	INFINITE	INFINITE	INFINITE	INFINITE
1.0Vp-p (pos.) RGB	1.0Vp-p (pos.) RGB	1.0Vp-p (pos.) RGB	1.0Vp-p (pos.) RGB	1.0Vp-p (pos.) RGB	1.0Vp-p (pos.) RGB
1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)
1.0Vp-p (pos.) RGB	1.0Vp-p (pos.) RGB	1.0Vp-p (pos.) RGB	1.0Vp-p (pos.) RGB	1.0Vp-p (pos.) RGB	1.0Vp-p (pos.) RGB
1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)
1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)
50Hz~45MHz±3dB	50Hz~45MHz±3dB	50Hz~45MHz±3dB	50Hz~45MHz±3dB	50Hz~45MHz±3dB	50Hz~45MHz±3dB
12ns (max.)	12ns (max.)	12ns (max.)	12ns (max.)	12ns (typ.)	12ns (typ.)
12ns (max.)	12ns (max.)	12ns (max.)	12ns (max.)	12ns (typ.)	12ns (typ.)
1,024×680 pixels (typ.)	1,024×874 pixels (typ.)	512×680 pixels (typ.)	1,024×874 pixels (typ.)	512×680 pixels (typ.)	1,024×874 pixels (typ.)
350×265mm	350×265mm	350×265mm	350×265mm	350×265mm	350×265mm
20~25kHz	28~34kHz	15.5~23.5kHz	28~35kHz	15.5~23.5kHz	28~35kHz
8μs	7μs	9μs	6μs	9μs	6μs
3.4μs (typ.)	2.3μs (typ.)	3.0μs (typ.)	2.3μs (typ.)	3.0μs (typ.)	2.3μs (typ.)
40~70Hz	40~70Hz	40~70Hz	40~70Hz	40~70Hz	40~70Hz
0.7ms	0.7ms	0.85ms	0.7ms	0.85ms	0.7ms
3H (typ.)	3H (typ.)	3H (typ.)	3H (typ.)	3H (typ.)	3H (typ.)
0.4mm (typ.)	0.4mm (typ.)	0.4mm (typ.)	0.4mm (typ.)	0.4mm (typ.)	0.4mm (typ.)
0.5mm (typ.)	0.5mm (typ.)	0.5mm (typ.)	0.5mm (typ.)	0.5mm (typ.)	0.5mm (typ.)
100~120VAC±10% or 220~240VAC±10%	100~120VAC±10% or 220~240VAC±10%	100~120VAC±10% or 220~240VAC±10%	100~120VAC±10% or 220~240VAC±10%	100~120VAC±10% or 220~240VAC±10%	100~120VAC±10% or 220~240VAC±10%
110W (max.)	110W (max.)	150W	160W	150W	160W
BNC (75Ω or high-impedance)	BNC (75Ω or high-impedance)	BNC (75Ω or high-impedance)	BNC (75Ω or high-impedance)	BNC (75Ω or high-impedance)	BNC (75Ω or high-impedance)
CEE22 3P receptacle	CEE22 3P receptacle	CEE22 3P receptacle	CEE22 3P receptacle	CEE22 3P receptacle	CEE22 3P receptacle
0~40°C (with cabinet)	0~40°C (with cabinet)	0~40°C (with cabinet)	0~40°C (with cabinet)	0~40°C (with cabinet)	0~40°C (with cabinet)
32kg	32kg	36kg	36kg	32kg	32kg
Tvf>1H Tvb>0.7ms Thf>1.2μs Ths=3.4μs Std. Thb>8μs	Tvf>1H Tvb>0.7ms Thf>1.04μs Ths=2.3μs Std. Thb>7μs	Tvf>1H Tvb>0.8ms Thf>1.2μs Ths=4.7μs Std. Thb>9μs	Tvf>1H Tvb>0.7ms Thf>0.6μs Ths=2.3μs Std. Thb>6μs	Tvf>1H Tvb>0.8ms Thf>1.2μs Ths=4.7μs Std. Thb>9μs	Tvf>1H Tvb>0.7ms Thf>0.6μs Ths=2.3μs Std. Thb>6μs
B type	B type	B type	B type	A type	A type
Not available	Not available	Same as UC3922	Same as UC6922	Available	Available
TS-20	TS-20	TS-20	TS-20	Not available	Not available

20 State-of-the-Art Monitors with Auto Tracki
Monitoren auf dem höchsten Stand der Tec außerordentlich hohem Auflö sungsvermög
Moniteurs haute technologie avec aligneme

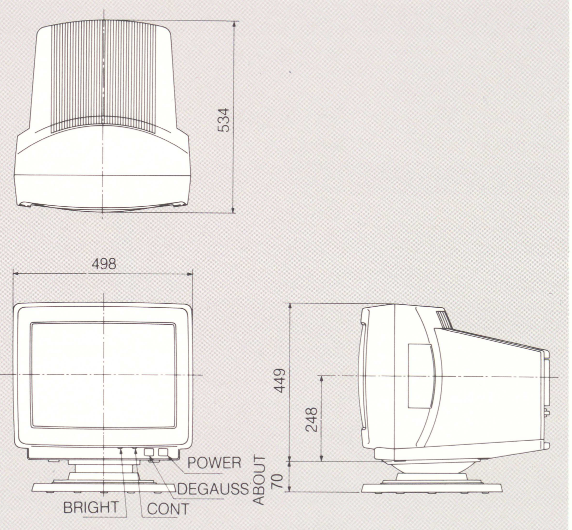
A type	B type
W: 480 mm H: 419 mm D: 496 mm	W: 498 mm H: 449 mm D: 534 mm



DIMENSIONS (mm)

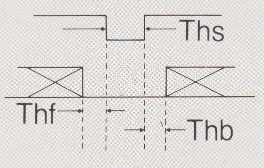


DIMENSIONS (mm)

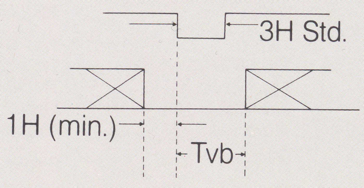


RECOMMENDED TIMING CHART

Horizontal



Vertical



CRT	
Size	
Gun	
Deflection angle	
Neck diameter	
Radius of curvature	
Dot pitch	
Phosphors	
Displayed colors	
Input signal	
Composite video	
Composite sync	
Video	
Separate sync (HD)	
Separate sync (VD)	
Video	
Band width	
Pulse rise time	
Pulse fall time	
Resolution (H×V)	
Display size	
Horizontal	
Scanning frequency	
Blanking time	
Sync pulse width	
Vertical	
Scanning frequency	
Blanking time	
Sync pulse width	
Convergence	
Power supply	
Voltage	
Power consumption	
Connector types	
Signal	
Impedance	
Power	
Operating temperature	
Weight	
Recommended timing	
Tvf	
Tvb	
Thf	
Ths	
Cabinet	
T&S option	

• Module type is not available.

ng and Ultra-High Resolution
hnik mit automatischer Zielverfolgung und en
nt automatique et résolution extrêmement élevée.

HA3905	HG6905	HJ6905	FJ9905*	HL6905*
19″V	19″V	19″V	19″V	19″V
In-line	In-line	In-line	In-line	In-line
90°	90°	90°	90°	90°
29.1mm	29.1mm	29.1mm	29.1mm	29.1mm
819.7mm	819.7mm	819.7mm	819.7mm	819.7mm
0.31mm	0.31mm	0.31mm	0.25mm	0.31mm
Red, green, blue	Red, green, blue	Red, green, blue	Red, green, blue	Red, green, blue
INFINITE	INFINITE	INFINITE	INFINITE	INFINITE
1.0Vp-p (pos.) RGB/ Sync on Green	1.0Vp-p (pos.) RGB	1.0Vp-p (pos.) RGB	1.0Vp-p (pos.) RGB	1.0Vp-p (pos.) RGB
TTL(pos/neg.)	1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)	2.0~5Vp-p (neg./pos.)
Analog (0.7Vp-p pos.) or TTL(pos.)	0.7Vp-p (pos.) RGB	0.7Vp-p (pos.) RGB	0.7Vp-p (pos.) RGB	0.7Vp-p (pos.) RGB
TTL(pos/neg.)	1.0~5Vp-p (neg.)	1.0~5Vp-p (neg.)	1.0~5Vp-p (neg.)	2.0~5Vp-p (neg./pos.)
TTL(pos/neg.)	1.0~5Vp-p (neg.)	1.0~5Vp-p (neg.)	1.0~5Vp-p (neg.)	2.0~5Vp-p (neg./pos.)
50MHz(typ.)	50Hz~110MHz±3dB	50Hz~110MHz±3dB	50Hz~150MHz±3dB	50Hz~100MHz±3dB
13ns (max.)	5ns (typ.)	5ns (typ.)	3ns (max.)	5ns (max.)
13ns (max.)	5ns (typ.)	5ns (typ.)	3ns (max.)	5ns (max.)
1,024×874 pixels (typ.)	1,280×1,024 pixels (typ.)	1,280×1,024 pixels (typ.)	1,600×1,280 pixels (typ.)	1,280×1,024 pixels (typ.)
350×265mm	350×270mm	350×270mm	350×270mm	350×270mm
15.7~35.5kHz Auto Tracking	40~67kHz Tap selectable	40~70kHz Auto Tracking	60~90kHz Auto Tracking	30~64kHz Auto Tracking 16-timings presettable
4.75μs	<5.5μs (40~48kHz) <4.0μs (48~67kHz)	<5.5μs (40~48kHz) <5.0μs (48~58kHz) <4.0μs (58~70kHz)	<4.0μs (60~70kHz) <3.0μs (70~80kHz) <2.5μs (80~90kHz)	<5.5μs (30~48kHz) <4.0μs (48~64kHz)
3.0μs (typ.)	1.5μs (typ.)	1.5μs (typ.)	1.0μs (typ.)	1.5μs (typ.)
45~80Hz	50~75Hz	50~80Hz	50~80Hz	50~90Hz
0.4ms	0.6ms	0.6ms	0.6ms	0.6ms
3H (typ.)	3H (typ.)	3H (typ.)	3H (typ.)	3H (typ.)
0.3mm (typ.)	0.3mm (typ.)	0.3mm (typ.)	0.3mm (typ.)	0.3mm (typ.)
100~120VAC±10% 220~240VAC±10%	100~120VAC±10% 220~240VAC±10%	100~120VAC±10% 220~240VAC±10%	100~120VAC±10% 220~240VAC±10%	100~120VAC±10% 220~240VAC±10%
110W	160W	140W	160W	140W
BNC/Shrink D-sub 15P	BNC	BNC	BNC	BNC
75Ω or High/330Ω, 1KΩ	75Ω or High	75Ω or High	75Ω or High	75Ω or High
CEE22 3P receptacle	CEE22 3P receptacle	CEE22 3P receptacle	CEE22 3P receptacle	CEE22 3P receptacle
0~40°C, 20~90%RH (with cabinet)	0~40°C, 20~90%RH (with cabinet)	0~40°C, 20~90%RH (with cabinet)	0~40°C, 20~90%RH (with cabinet)	0~40°C, 20~90%RH (with cabinet)
30kg	35kg	31kg	31kg	29kg
Auto-tracking		Auto-tracking	Auto-tracking	Auto-tracking
>1H	>1H	>1H	>1H	>1H
>0.6ms	>0.6ms	>0.6ms	>0.6ms	>0.6ms
>1.2μs	>0.3μs	>0.3μs	>0.3μs	>0.3μs
=3.0μs Std.	=1.5μs Std.	=1.5μs Std.	=1.0μs Std.	=1.5μs Std.
B type	A type	B type	B type	B type
XS-0020	TS-20	XS-0020	XS-0020	XS-0020

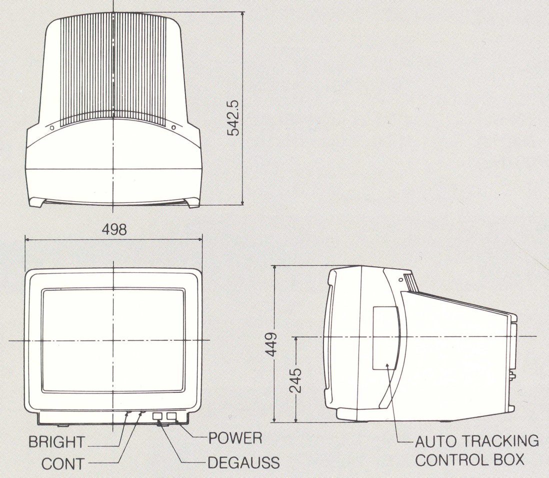
*Available soon.

21 Flat Square Type with Auto Tracking Mode
Flachquadratische Ausführung mit Mitlauf-
Modèle carré et plat avec un mode d'aligne

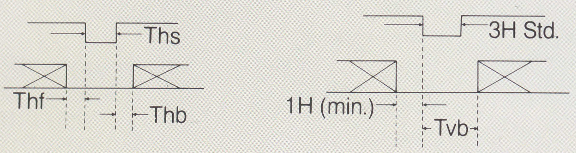
A type

W: 498 mm
H: 449 mm
D: 545 mm

DIMENSIONS (mm)



RECOMMENDED TIMING CHART



	FHJ3105	FHJ6105
CRT		
Size	20″V	20″V
Gun	In-line	In-line
Deflection angle	90°	90°
Neck diameter	29.1mm	29.1mm
Radius of curvature	1,730mm	1,730mm
Dot pitch	0.31mm	0.31mm
Phosphors	Red, green, blue	Red, green, blue
Displayed colors	INFINITE	INFINITE
Input signal		
Composite video	1.0Vp-p (pos.) RGB	1.0Vp-p (pos.) RGB
Composite sync	1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)
Video	0.7Vp-p (pos.)	0.7Vp-p (pos.)
Separate sync (HD)	1.0~5Vp-p (neg.)	1.0~5Vp-p (neg.)
Separate sync (VD)	1.0~5Vp-p (neg.)	1.0~5Vp-p (neg.)
Video		
Band width	50Hz~50MHz±3dB	50Hz~110MHz±3dB
Pulse rise time	11ns (typ.)	5ns (typ.)
Pulse fall time	11ns (typ.)	5ns (typ.)
Resolution (H×V)	1,024×874 pixels	1,280×1,024 pixels
Display size	380×290mm	380×290mm
Horizontal		
Scanning frequency	15~35kHz Auto-tracking	40~70kHz Auto-tracking
Blanking time	<10μs (15~20kHz) <8μs (20~28kHz) <6.5μs (28~35kHz)	<5.5μs (40~48kHz) <5.0μs (48~58kHz) <4.0μs (58~70kHz)
Sync pulse width	3.0μs (typ.)	1.5μs (typ.)
Vertical		
Scanning frequency	50~80Hz	50~80Hz
Blanking time	0.6ms	0.6ms
Sync pulse width	3H (typ.)	3H (typ.)
Convergence		
Center circle with vert. height diameter	0.3mm (typ.)	0.3mm (typ.)
Elsewhere	0.4mm (typ.)	0.4mm (typ.)
Power supply		
Voltage	100~120VAC±10% 220~240VAC±10%	100~120VAC±10% 220~240VAC±10%
Power consumption	140W	150W
Connector types		
Signal	BNC	BNC
Impedance	75Ω or high	75Ω or high
Power	CEE22 3P receptacle	CEE22 3P receptacle
Operating temperature	0~40°C (with cabinet)	0~40°C (with cabinet)
Weight	33kg	33kg
Recommended timing		
Tvf	>1H	>1H
Tvb	>0.6ms	>0.6ms
Thf	>1.2μs	>0.3μs
Ths	3.0μs Std.	1.5μs Std.
Cabinet	A type	A type

Modus

ment auto

FFJ9105
20″V
In-line
90°
29.1mm
1,730mm
0.25mm
Red, green, blue
INFINITE
1.0Vp-p (pos.) RGB
1.5~5Vp-p (neg.)
0.7Vp-p (pos.) RGB
1.0~5Vp-p (neg.)
1.0~5Vp-p (neg.)
50Hz~150MHz±3dB
3ns (typ.)
3ns (typ.)
1,600×1,280 pixels
380×290mm
60~90kHz Auto tracking
<2.5μs (80~90kHz) <3.0μs (70~80kHz) <4.0μs (60~70kHz)
1.0μs (typ.)
50~80Hz
0.6ms
3H (typ.)
0.3mm (typ.)
0.4mm (typ.)
100~120VAC±10% 220~240VAC±10%
170W
BNC
75Ω
CEE22 3P receptacle
0~40°C (with cabinet)
33kg
>1H
>0.6ms
>0.3μs
1.0μs Std.
A type

*All models available soon.

26 Large Screens for Computer Terminals and
Große Bildschirme für Computer-Terminals
Grands écrans pour terminaux d'ordinateur

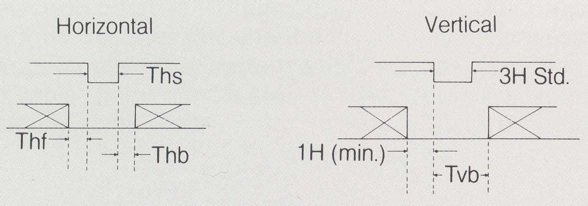
A type

W: 509 mm
H: 576 mm
D: 607 mm

B type

Available soon

RECOMMENDED TIMING CHART



	C-3510	C-6512
CRT		
Size	25″V	25″V
Gun	Delta	Delta
Deflection angle	90°	90°
Neck diameter	36.5mm	36.5mm
Radius of curvature	1,070mm	1,070mm
Dot pitch	0.37mm	0.37mm
Phosphors	Red, green, blue	Red, green, blue
Displayed colors	INFINITE	INFINITE
Input signal		
Composite video	1.0Vp-p (pos.) RGB	1.0Vp-p (pos.) RGB
Composite sync	1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)
Video	1.0Vp-p (pos.) RGB	1.0Vp-p (pos.) RGB
Separate sync (HD)	—	—
Separate sync (VD)	—	—
Video		
Band width	50Hz~25MHz±3dB	50Hz~50MHz±3dB
Pulse rise time	20ns (max.)	11ns (max.)
Pulse fall time	20ns (max.)	11ns (max.)
Resolution (H×V)	512×400 pixels (typ.)	1,024×874 pixels (typ.)
Display size	450×350mm	450×350mm
Horizontal		
Scanning frequency (one point)	15~18kHz	28~34kHz
Blanking time	9.0μs	6.0μs
Sync pulse width	5.0μs (typ.)	2.2μs (typ.)
Vertical		
Scanning frequency	40~70Hz	40~70Hz
Blanking time	0.8ms	0.6ms
Sync pulse width	3H (typ.)	3H (typ.)
Convergence		
Center circle with vert. height diameter	0.65mm (typ.)	0.65mm (typ.)
Elsewhere	1.25mm (typ.)	1.25mm (typ.)
Power Supply		
Voltage	100/110/120/ 220/240VAC±10%	100/110/120/ 220/240VAC±10%
Power consumption	160W	160W
Connector types		
Signal	BNC	BNC
Impedance	75Ω or High	75Ω or High
Power	CEE22 3P receptacle	CEE22 3P receptacle
Operating temperature	0~40°C (with cabinet)	0~40°C (with cabinet)
Weight	67kg	67kg
Recommended timing		
Tvf	>1H	>1H
Tvb	>0.8ms	>0.6ms
Thf	>1.2μs	>0.6μs
Ths	4.7μs Std.	2.3μs Std.
Cabinet	A type	A type

• Module type is not available.

Public Information Systems
und öffentliche Auskunfts-Systeme
et systèmes d'information publique

	HJ3505*	HJ6505*
	25″V	25″V
	In-line	In-line
	90°	90°
	29.1mm	29.1mm
	1,070mm	1,070mm
	0.31mm	0.31mm
	Red, green, blue	Red, green, blue
	INFINITE	INFINITE
	1.0Vp-p (pos.) RGB	1.0Vp-p (pos.) RGB
	1.5~5Vp-p (neg.)	1.5~5Vp-p (neg.)
	1.0Vp-p (pos.) RGB	1.0Vp-p (pos.) RGB
	—	—
	—	—
	50Hz~50MHz±3dB	50Hz~110MHz±3dB
	11ns (max.)	5ns (typ.)
	11ns (max.)	5ns (typ.)
	1,024×870 pixels (typ.)	1,280×1,024 pixels (typ.)
	450×350mm	450×350mm
	15~35kHz	40~70kHz
	10~6.5μs	<4.0μs (58~70kHz) <5.0μs (48~58kHz) <5.5μs (40~48kHz)
	3.0μs (typ.)	1.5μs (typ.)
	50~80Hz	50~80Hz
	0.6ms	0.6ms
	3H (typ.)	3H (typ.)
	0.4mm (typ.)	0.4mm (typ.)
	0.5mm (typ.)	0.5mm (typ.)
	100~120VAC±10% or 220~240VAC±10%	100~120VAC±10% or 220~240VAC±10%
	150W	160W
	BNC	BNC
	75Ω or High	75Ω or High
	CEE22 3P receptacle	CEE22 3P receptacle
	0~40°C (with cabinet)	0~40°C (with cabinet)
	—	—
	>1H	>1H
	>0.6ms	>0.6ms
	>0.3μs	>0.3μs
	3.0μs Std.	3.0μs Std.
	B type	B type

*Available soon.

Tilt & Swivel bases make using a display monitor much easier and more convenient

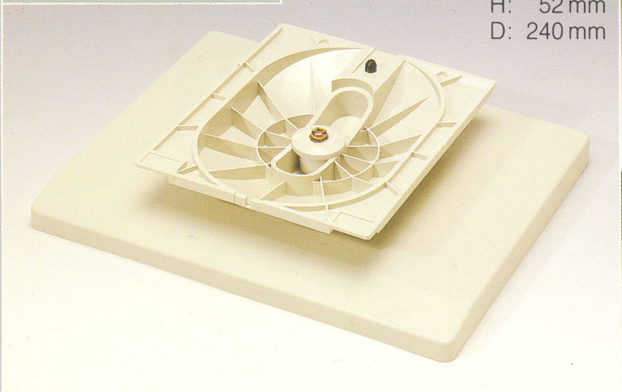
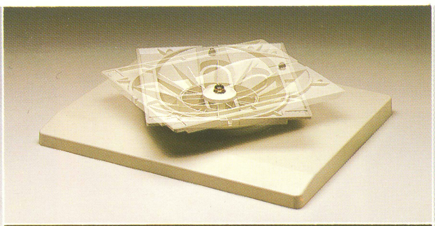
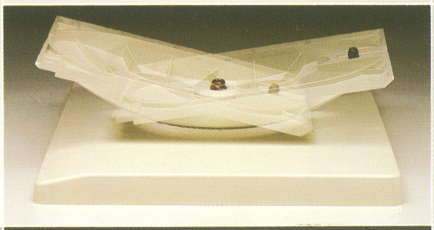
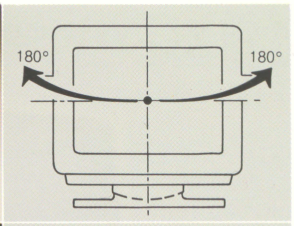
Die kipp- und schwenkbare Grundplatte, macht die Benutzung eines Display Monitore viel leichter und darüberhinaus auch wesentlich bequemer

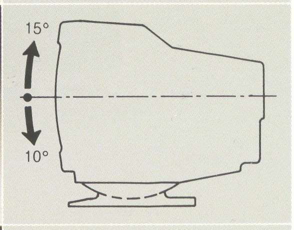
La base pivotante et rotative rend l'utilisation d'un moniteur d'affichage plus practique et plus aisée

14″
16″

XS-0001

W: 290 mm
H: 52 mm
D: 240 mm

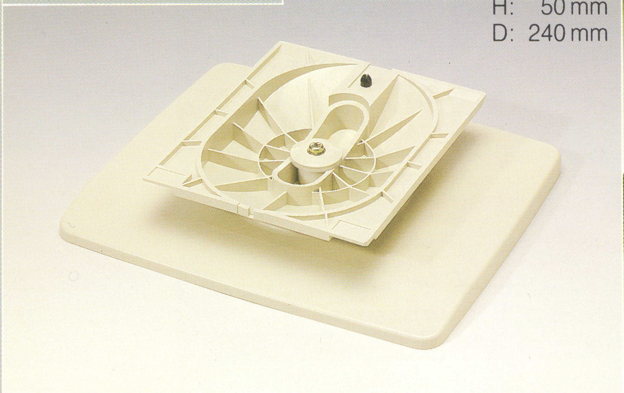
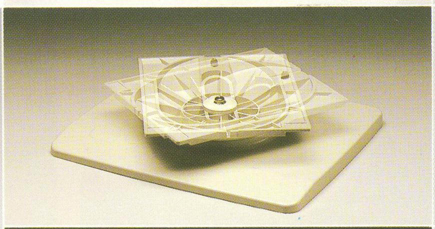
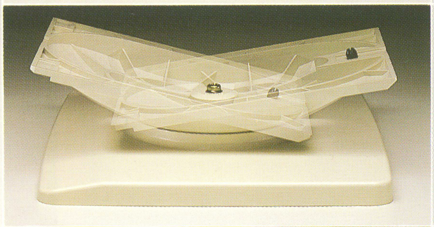
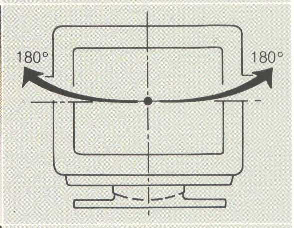





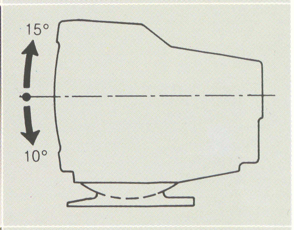


14″
16″

XS-0004

W: 280 mm
H: 50 mm
D: 240 mm

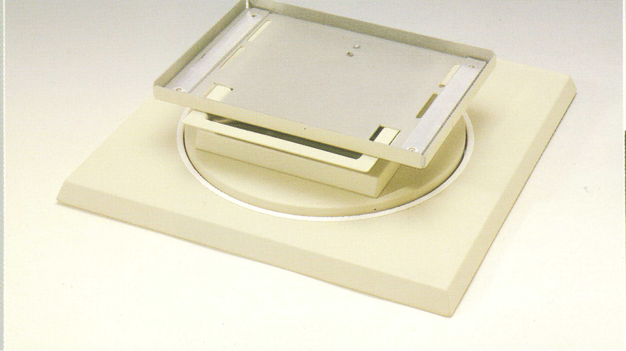
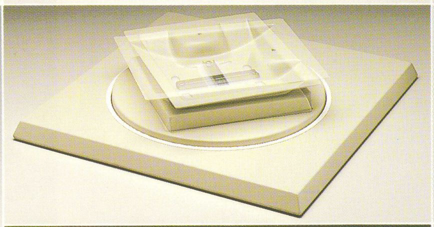
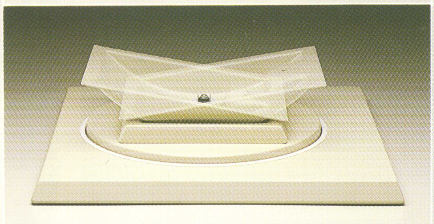
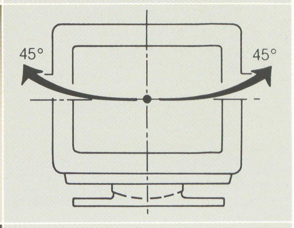





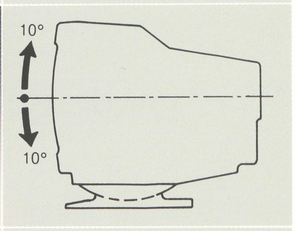


20″

TS-20

W: 400 mm
H: 80 mm
D: 400 mm

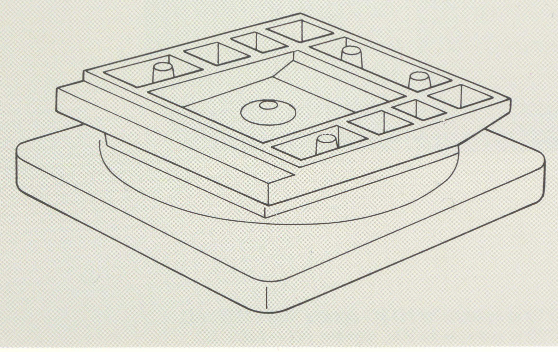
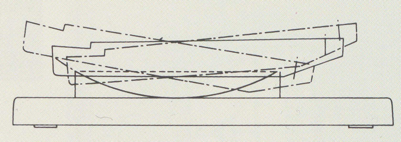
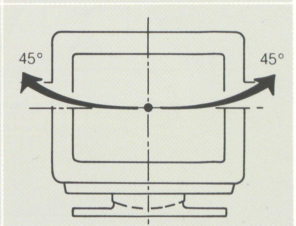





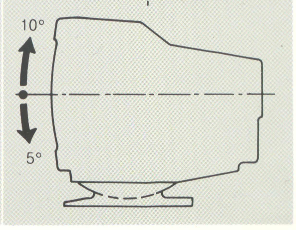


20″

XS-0020

W: 360 mm
H: 80 mm
D: 350 mm



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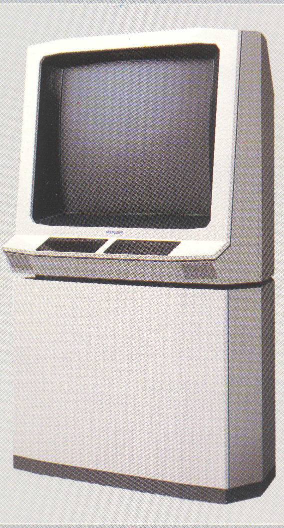
Huge Screens for Televisual Communications, Public Information Services and Entertainment Purposes

Gewaltige Bildschirme für Bildkommunikation, öffentlicher Informationsservice und zum Unterhaltungsweck

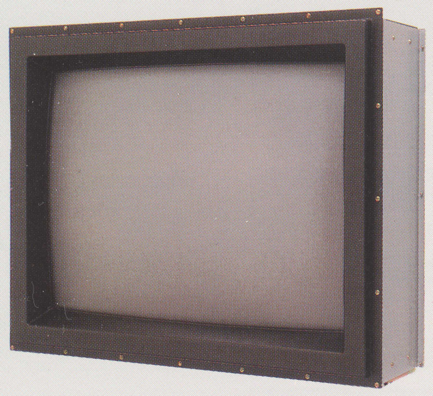
Ecrans géants pour communications télévisuelles, des informations destinées au public et des activités de divertissement

XC-3710SS/XC-3720SS



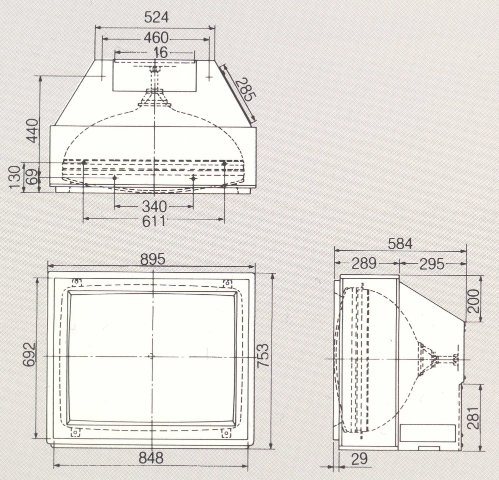
W: 1,000 mm
H: 859 mm
D: 735 mm
(Excluding base)

XC-3710U/XC-3720U



W: 895 mm
H: 753 mm
D: 584 mm

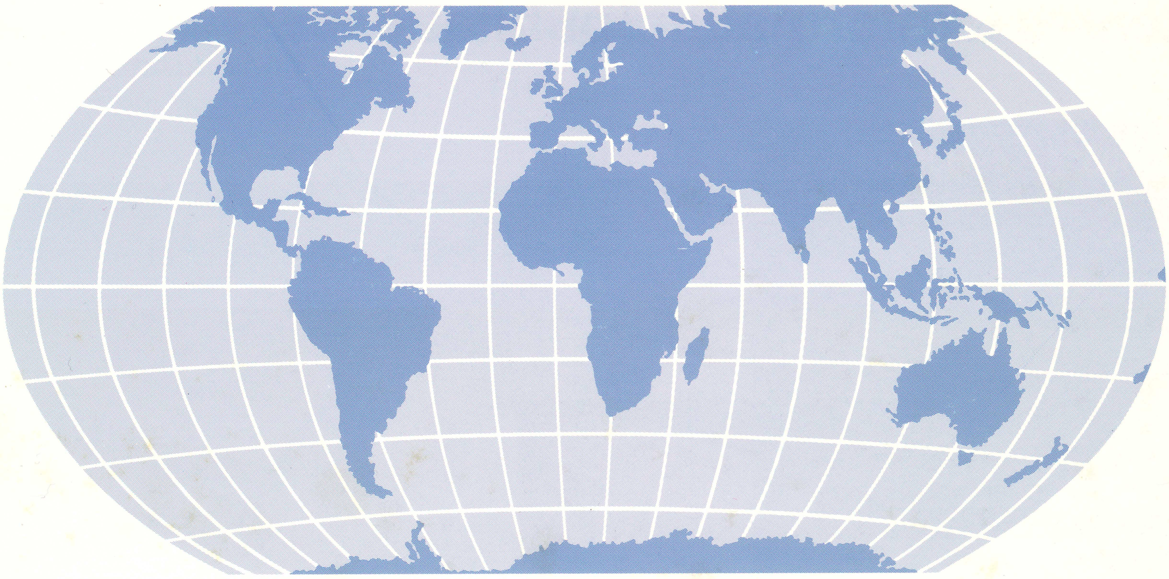
DIMENSIONS (mm)



	XC-3710/20
CRT	
Size	37″ (35″V)
Deflection angle	110°
Dot pitch	Center 1mm, corner 1.35mm
Phosphors	Red, green, blue
Displayed colors	INFINITE
Input signal	
Video signal	NTSC/PAL composite video RGB analog (0~0.7Vpp), TTL RGBI (16 colors) TTL RR'GG'BB' (64 colors)
TTL RGB sync. signal	HV separate sync. (TTL negative, positive)
Analog RGB sync. signal	HV separate sync. (TTL negative, positive) HV composite sync. (TTL negative)
Computer signals (optional)	Multibus IEEE 796 Optical fiber 80MBPS
Video	
Resolution (H×V)	640 dots×200~480 lines (according to HV frequency)
Display size	718×540mm
Horizontal	
Scanning frequency	15~35kHz (autotracking)
Blanking time	6.2μs min.
Sync pulse width	2μs min.
Vertical	
Scanning frequency	40~75Hz (autotracking)
Blaking time	0.7ms min.
Sync pulse width	50μs min.
Input connectors	
NTSC/PAL	BNC, RCA-pin type
TTL RGB (RR', GG'/I, BB', H, V)	D.SUB 9p
Analog RGB and sync.	BNC
Power	IEC 3p
Connector types	
Signal	BNC, RCA-pin, D.SUB 9p, EIC 3p
Video impedance	75Ω-Analog
Sync. impedance	75Ω-Analog
Operating temperature	0~40°C
Weight	130kg
Recommended timing	Auto-tracking
Module type	Available

Note: XC-3710 is suitable for NTSC signals, 100~120V AC.
XC-3720 is suitable for PAL signals, 200~240V AC.

World-Wide Distribution/Service Network



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Sweden	Mitsubishi Electric Scandinavia AB	Lastbilsvagen 6b S-191 49 Sollentua, Sweden	(8) 960460 (8) 966877
Australia	Mitsubishi Electric Australia Pty., Ltd.	73-75 Epping Rd., North Ryde, P.O. Box 1567, Macquarie Centre, N.S.W. 2113, Australia	(2) 888-5777 (2) 887-3635
Taiwan	Melco Taiwan Co., Ltd.	Chung-Ling Bldg., No. 363, Sec. 2, Fu-Hsing S. Rd., Taipei, Taiwan, R.O.C.	(2) 733-3030 (2) 735-6244
Hong Kong	Mitsubishi Electric (H.K.) Ltd.	25th Floor, Leighton Centre, 77 Leighton Rd., Causeway Bay, Hong Kong	(5) 773901 123-4345
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